**Introduction**: Several studies proved that obstructive sleep apnea (OSA) is associated with cardio-vascular diseases such as cardiac arrhythmia. QT duration and dispersion reflect the heterogeinity of ventricular repolarization and are considered as precursors of ventricular arrhythmia

**Aim**: The aim of this study is to assess the relation between the severity of OSA parameters as apnea hypopnea index and QT intervals.

**Methods:** Forty patients (18 men and 22 women) who were diagnosed with OSA by overnight polysomnography were included in this prospective study. The mean age was 56±10 years old. They were all in sinus rhythm. Before initiating continuous positive airway pressure therapy, we calculated on a 12 lead ECG : QT duration (QTend) corrected to Bazett formula and QT dispersion (QT end max -QT end min).

**Results:** Twenty four patients had severe OSA (AHI >30), 4 had moderate OSA (AHI between 15 and 30) and 12 had a mild OSA (AHI between 5 and 15). There was a significant positive correlation between QT dispersion and AHI (r=0.48, p=0.001)

**Conclusion:** The severity of OSA seems to be correlated with ventricular repolarization heterogeinity These results suggest that the higher is the AHI the higher is the risk of ventricular arrhythmia occurence. Further studies are needed to validate these results.

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## Atrio-ventricular electromechanical correlates in systolic heart failure with wide QRS.

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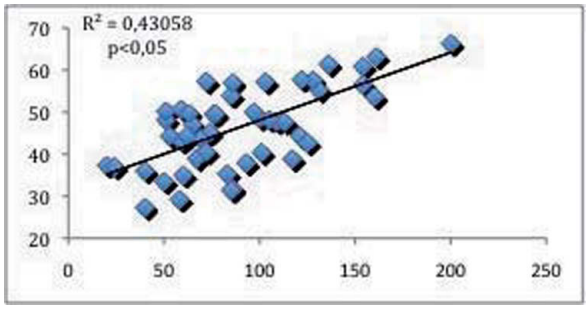
**Background**: Electromechanical correlates at the atrio-ventricular (AV) level remain poorly investigated in patients with dyssynchronised systolic heart failure (HF). The aim of the present study was to assess the exact prevalence and the electrical determinants of AV mechanical dyssynchrony in the left heart, in this patient population.

**Methods:** Prospective observational study of 49 HF patients with stable sinus rhythm and wide QRS complex (mean: 160±19 ms), all scheduled for CRT device implantation. 12% were in NYHA class II, 85% in NYHA class III. Mean PR intervall was 200±40 ms, mean LV ejection fraction = 26±5%. Left AV dyssynchrony (LAVD) was definited as LV filling time (LVFT) <40% RR interval on transmitral flow at doppler-echocardiography. PR interval, P wave duration, P'R interval (interval between P wave termination of and QRS onset), QRS duration and QRS morphology (type of bundle branch block) were investigated as possible predictors of LAVD. Correlations between LVFT and ECG intervals were assessed by linear regression.

**Results:** LAVD was present in 13 patients (26,5). P wave duration, PR interval and QRS morphology had no predictive value for LAVD. In contrast, a significant correlation was observed between LVFT and P'R interval (P<0,005) and QRS duration (p=0,001).

**Conclusions:** Evidence of resting LAVD is observed in 26,5% patients with a CRT guideline indication. QRS duration and the P'R interval but not the PR interval are significant determinants of LAVD. These data may be of practical importance for optimal programming of CRT devices.

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## Correlation between P wave variables and apnea-hypopnea index in obstructive sleep apnea

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**Introduction**: Obstructive sleep apnea (OSA) is associated with several cardio-vascular abnormalities as atrial fibrillation (AF). AF occurrence in OSA increases the risk of stroke which worsens the prognosis of these patients. P wave dispersion (Pd) and maximal P wave duration (P max) are simple electrocardiographic parameters which reflect atrial conduction abnormalities and have been reported to be predictors of atrial fibrillation

**Aim:** the aim of this study is to determine the correlation between apnea-hypopnea index (AHI) and P wave dispersion and maximal P wave duration.

**Methods:** Forty patients (18 men and 22 women) who were diagnosed with OSA by overnight polysomnography were included in this prospective study. The mean age was 56±10 years old. They were all in sinus rhythm. Before initiating continuous positive airway pressure therapy, we evaluated on a 12 lead ECG P wave duration and P wave dispersion (P max – P min).

**Results:** Twenty four patients had severe OSA (AHI >30), 4 had moderate OSA (AHI between 15 and 30) and 12 had a mild OSA (AHI between 5 and 15). Mean P max duration was 119±21 ms. P wave dispersion was 93±6 ms. There was a significant positive correlation between P max and AHI (r= 0.45, p=0.001) and between P wave dispersion and AHI (r=0.42, p=0.001)

**Conclusion:** The severity of OSA seems to be correlated with the importance of atrial conduction abnormalities. These results suggest the higher is the AHI the higher is the risk of AF occurrence in OSA. Further studies are needed to validate these results.

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## Clinical and Genetic Characteristics of Brugada Syndrome in a Tunisian Population

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**Background:** The Brugada syndrome (BS) is a clinical entity involving cardiac sodium channelopathy, typical electrocardiogram (ECG) changes and predisposition to ventricular arrhythmia. This syndrome is mainly recognized by specialized cardiologists and electrophysiologists. Data regarding BS largely come from multicentre registries or Asian countries. The objective of this study was to investigate the clinical characteristics and prognosis of native Tunisian subjects with the Brugada-type ECG pattern (BS)

**Methods and results:** BS has been diagnosed in 10 patients (9 men, 1 woman, mean age 38±11 years) at the department of cardiology Sfax since January 2002. Patients were referred from primary care physicians for ECG abnormalities, syncope or ventricular arrhythmia, or were diagnosed incidentally on an ECG obtained for other purposes. Nine patients had had an episode of syncope, dizziness or chest pain, 1 patient was asymptomatic at diagnosis and any patients survived sudden cardiac death. The electrocardiographics (ECGs) of all patients showed spontaneous ST-segment elevation in leads V1–3 at baseline and 8 patients (80%) showed transient normalization of the ST-segment elevation during follow-up. Two patients had a family history of sudden cardiac death at younger than 45 years of age. No patient has been found to have a mutation in the SCN5A gene. An implantable cardioverter-defibrillator was implanted in four patients (40%), including the patient with a history of syncope. No event occurred in our population after a mean follow-up of 26±29 months.

**Conclusions:** BS is present in the Tunisian population and is probably under-recognized. Long-term prognosis of individuals with BS, especially in sporadic, asymptomatic cases, needs to be clarified.